

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-119
NPDES NO. CA0028878
WASTE DISCHARGE REQUIREMENTS

PRECISION MONOLITHICS, INC.
SPACE PARK DRIVE FACILITY
CITY OF SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Precision Monolithics, Incorporated, hereinafter called the discharger, by application dated August 28, 1985, has applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger owns and operates an integrated circuits manufacturing facility located at 1500 Space Park Drive in the City of Santa Clara, Santa Clara County, approximately 1/2 mile southeast of the intersection of Route 101 and Montague Expressway.
3. Subsurface investigations initiated in January 1983 detected various industrial solvents, including trichloroethane, trichloroethylene, dichloroethylene, benzene derivatives, ketones, and alcohols, in both soils and groundwaters beneath the facility. Reports subsequently submitted to the Board staff have indicated that the solvent contamination extended vertically to a sand and gravel aquifer to a depth of approximately 40 feet and horizontally a distance of about 500 feet downgradient from the area of greatest chemical concentrations which were found on the discharger's property. Onsite groundwater samples have detected trichloroethylene, dichloroethane, and chlorobenzene at concentrations exceeding 1000 parts per billion. Offsite groundwater samples have detected dichloroethylene and trichloroethylene at concentrations exceeding 100 parts per billion.
4. The discharger has proposed to extract and treat groundwater, to sample the existing groundwater, to further assess the distribution of chemicals in groundwater, and to expand the extraction system as necessary.

5. The waste stream consists of up to 80,000 gallons per day of polluted groundwater. The extracted groundwater is treated by air stripping prior to discharge to the storm drain system tributary to the Guadalupe River, Saratoga Creek, and South San Francisco Bay.
6. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for the Guadalupe River and for South San Francisco Bay and discharge prohibitions discussed below.
7. The beneficial uses of South San Francisco Bay include:
 - ° Contact and non-contact water recreation
 - ° Wildlife habitat
 - ° Preservation of rare and endangered species
 - ° Estuarine habitat
 - ° Warm Fresh water and cold fresh water habitat
 - ° Fish spawning and migration
 - ° Industrial service supply
 - ° Shellfishing
 - ° Navigation
 - ° Open commercial and sport fishing
8. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses: (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, deadend slough, similar confined water, or any immediate tributary thereof."
9. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 8 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
10. Exceptions to the prohibitions referred to in Finding 8 are warranted because the discharge is an integral part of a program to cleanup contaminated groundwater and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would effect beneficial uses. Should studies indicate chronic effects not currently anticipated, the Board will review the requirements of this order based upon Section B.1.e.

(1) Defined as trichloroethylene, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2 dichloroethene, chloroform, methylene chloride, acetone, isopropanol, chlorobenzenes, benzene, o,m and p xylenes, ethyl benzene, toluene, tetrachloroethene, and Stoddard Solvent.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. In any representative set of samples, the discharge of waste shall meet the following limit of quality:

TOXICITY: The survival of rainbow trout fishes in 96 hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70 percent survival.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place.
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the surface:


- a. Dissolved oxygen 5.0 mg/l minimum - median
for any three consecutive
months not less than 80%
saturation. When natural
factors cause lesser
concentration(s) than
specified above, the
discharge shall not cause
further reduction in the
concentration of dissolved
oxygen.
 - b. pH Variation from natural
ambient pH by more than 0.5
pH units.
 - c. Un-ionized ammonia 0.025 mg/l as N Annual
Median. 0.4 mg/l as N
Maximum
3. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Provisions

- 1. The discharger shall comply with all sections of this order immediately upon adoption.
- 2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
- 3. The discharger shall also notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.
- 4. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except items A.5, A.12, B.2, B.3, B.5, C.2, and C.4.

5. This Order expires October 16, 1990. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
6. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on October 16, 1985.


ROGER B. JAMES
Executive Officer

Attachments:

Standard Provisions & Reporting
Requirements, April 1977
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

T E N T A T I V E
SELF-MONITORING PROGRAM
FOR

PRECISION MONOLITHICS, INC.

SPACE PARK DRIVE FACILITY

CITY OF SANTA CLARA, SANTA CLARA COUNTY

NPDES NO. CA0028878

ORDER NO. 85-119

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharger prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, EPA Standard Methods, 40 CFR Part 136, Vol 40, No. 209, dated October 26, 1984, or other methods approved and specified by the Executive Officer of this Regional Board.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations of Requirements

In the event the discharger is unable to comply with the conditions of the waste discharge requirements and prohibitions due to:

- (a) maintenance work, power failures, or breakdown of waste treatment equipment, or
- (b) accidents caused by human error or negligence, or

(c) other causes such as acts of nature,

(d) poor operation or inadequate system design,

The discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

The discharger shall file a written technical report at least 15 days prior to advertising for bid on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, costs and scheduling of all action necessary to preclude such discharge.

In addition, if the noncompliance caused by items (a), (b), (c) or (d) above is with respect to any of the effluent limits, the waste discharger shall promptly accelerate his monitoring program as required by the Board's Executive Officer for those constituents which have been violated. Such analysis shall continue until such time as the effluent limits have been attained, or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

2. Bypass Reports

Bypassing reporting shall be an integral part of regular monitoring program reporting. A report on bypassing of untreated waste or bypassing of any treatment units shall be made which will include cause, time and date, duration and estimated volume bypassed, method used in estimating volume, and persons and agencies notified. Notification to the Regional Board shall be made immediately by telephone (415-464-1255), followed by a written account within 15 days.

3. Self-Monitoring Reports

a. Reporting Period:

Written reports shall be filed regularly for each month by the thirtieth day of the following month.

b. Letter of Transmittal

A letter transmitting self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period and actions taken or planned for correcting any requirement violation. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to this correspondence will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by either a principal executive officer or his duly authorized employee. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

c. Data Results:

- (1) Results from each required analysis and observation shall be submitted in the monthly self-monitoring report. Results shall also be submitted for any additional analyses performed by the discharger for parameters for which effluent limits have been established by the Board.
- (2) The report shall include a discussion of unexpected operational changes which could affect performance of the treatment system, such as flow fluctuations, maintenance shutdown, etc.
- (3) The report shall also include a table identifying by method number the analytical procedures used for analyses. Any special methods shall be identified and should have prior approval of the Board's Executive Officer.

- (4) Lab results should be copied and submitted as an appendix to the regular report.
- (5) A map shall accompany the report, showing sampling locations and flow path to receiving waters.
- (6) The report shall include an annual waste summary for the current year for each parameter of the attached Table I, showing the minimum, maximum, and average value for the month. The report for December shall include minimum, maximum and average for the year. All monitoring results shall be presented in a tabular format.

D. DESCRIPTION OF SAMPLING STATIONS

1. INFLUENT

| <u>Station</u> | <u>Description</u> |
|----------------|---|
| E-1 | At a point in groundwater extraction system immediately prior to treatment. |

2. EFFLUENT

| <u>Station</u> | <u>Description</u> |
|----------------|--|
| E-2 | At a point in the groundwater extraction/treatment system immediately following treatment. |

3. RECEIVING WATERS

| <u>Station</u> | <u>Description</u> |
|----------------|---|
| C-1 | At a point in the Guadalupe River at least 100 yards but no more than 200 yards down - stream from the storm sewer discharge point. |

E. SCHEDULE OF SAMPLING AND ANALYSIS

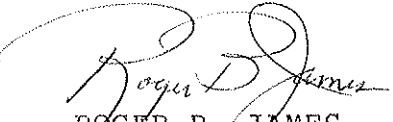
The schedule of sampling and analysis shall be that given as Table I.

F. MISCELLANEOUS REPORTING

If any chemical additives are proposed to be used in the operation of the treatment system it shall be reported prior to their use.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 85-119.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.


ROGER B. JAMES
Executive Officer

Effective Date: October 16, 1985

Attachment: Table I

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

| Sampling Station | E-1 | E-2 | C-1 | | | | | | | | | | | |
|---|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|
| TYPE OF SAMPLE | G | G | G | | | | | | | | | | | |
| Flow Rate (Gal/Day) | D | D | | | | | | | | | | | | |
| BOD, 5-day, 20°C, or COD (mg/l) | | | | | | | | | | | | | | |
| pH (units) | M | M | Q | | | | | | | | | | | |
| Dissolved Oxygen (mg/l and % Saturation) | | Q | Q | | | | | | | | | | | |
| Temperature (°C) | | Q | | | | | | | | | | | | |
| Total Suspended Matter (mg/l) | | Q | | | | | | | | | | | | |
| Fish Toxicity 96-hr. TL % Surv'l in undiluted waste | | 2/Y | | | | | | | | | | | | |
| Total Synthetic (1) Organic Solvent (mg/l) | W/M | W/M | Q | | | | | | | | | | | |
| GC/MS Scan (EPA 624/625) (mg/l) | 2/Y | 2/Y | | | | | | | | | | | | |
| Acetone, Isopropanol, and Stoddard Solvent | Q | | | | | | | | | | | | | |

G = Grab Sample
 D = Once each day
 M = Once each month
 Q = Quarterly, once in March, June, September, and December
 2/Y = Once in March and September
 W/M = Weekly for the first three(3) months of startup of operation; reduced to monthly thereafter.

FOOTNOTES

(1) Defined as trichloroethene, 1,1,1 trichloroethane,, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethene, chloroform, methylene chloride, chlorobenzenes, benzene, toluene, tetrachloroethene, o, m, and p xylenes, and ethyl benzene. The above specified constituents and/or frequency of analysis may be modified as appropriate following review of monitoring results by Board staff and upon approval by the Executive Officer.

11. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.
12. Effluent limitations of this Order are based on the Basin Plan, State Plans and policies, and best engineering judgement.
13. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
14. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of waste containing constituents in excess of the following limits is prohibited:

| <u>Constituents</u> | <u>Unit</u> | <u>Daily Maximum</u> |
|--|-------------|--------------------------|
| Total concentration of all synthetic organic solvents and hydrocarbon petroleum distillates* | mg/l | 0.100 |